The Maryland Agricultural College

QUARTERLY.

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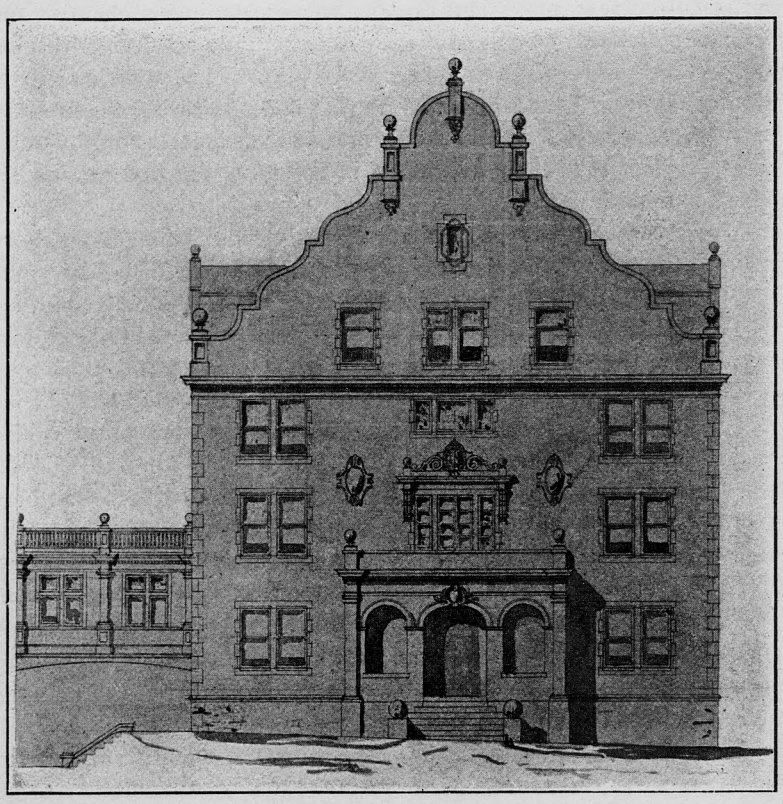

EAST ELEVATION OF THE ADMINISTRATION HALL AND DORMITORIES, NOW IN COURSE OF CONSTRUCTION.

TO THE FARMERS OF MARYLAND:

Can there be any doubt at this time, in your minds, that a great scientific training in all the branches bearing upon your profession is necessary for the greatest measure of success obtainable in your vocation? It is true that many men engaged in cropping are obtaining a livelihood, and perhaps saving something by hard work and the strictest economy, who make no pretension to an understanding of the scientific principles which form the foundation of the advanced agricultural work of the present generation. This condition but emphasizes how much easier it is to obtain a living by agricultural work than by any other of the vocations of man. In any other of the professions or trades the average man, to make any measure of success whatever, must be conversant with modern methods, built upon the latest contributions from scientific research. The doctor, lawyer, engineer, chemist, mechanic or merchant, who should seek to build up a profitable business upon methods current twenty-five years ago, would soon end in lamentable failure. That farmers who insist upon following the methods of fifty years ago and obtain some measure of success, only demonstrates the fact that their avocation is the most favored among the callings of mankind.

The increasing patronage of our Experiment Stations is yearly reducing to the minimum this class of our agriculturists. The dairyman, the orchardist, the nurseryman, the trucker, the breeder and feeder of all forms of live stock, and the general farmer, are each and all beginning to appreciate the value of the principles of science as they bear upon any special phase of their work. The measure of success in any of these departments is dependent upon the degree to which they use the scientific principles which threads their work. Wherever you find a man in close touch with his Experiment Station, taking advantage of and correctly applying its teachings, there you find the man making a success of his work. The dairyman who is developing his herd after the improved methods of breeding, who is feeding and caring for his cows by up-to-date methods, who is managing the first product from these cows after well-known and well-established principles,—here you find a successful dairyman who is in no danger from the competition of the "old-timer" who works on traditional plans.

The orchardist who knows his trees from the scientific standpoint, who appreciates the principles of culture, pruning, adaptability to soil conditions, the most economical methods of fertilizing, the maintenance of soil fertility, and how to combat successfully insect pests and plant

diseases, can view with serenity the activities of a competitor who is indifferent to these conditions. The same may be said of every department of the agricultural profession. The traditional agriculturist is a vanishing product; he must disappear in the onward march of progress.

The workers in the fields are more and more impressed each year with the necessity of laying tribute upon every fact brought to light by scientific research. This is a good omen. So soon as the father and the mother fully appreciate this condition, then they will bend every effort to giving the son and the daughter, who are to gain their livelihood on the farm, the same training for their lives' work, as they now do for the one who is to belong to any of the so-called "learned professions." When this day arrives our four years course in agriculture will have many pupils at our Colleges, where efforts are devoted to the development of the *agricultural profession*. It is an anomalous condition to find a father seeking and appreciating an education better to fit himself for his work, and at the same time failing to provide the training for his child who is to follow in his foot-steps. This anomaly cannot much longer exist. The following pages will give you some idea of the equipment, methods and teaching force of your agricultural college.

We want the sons of the farmers of Maryland to come here in full force for the training for life's work. The opportunity should be availed of by every boy who wishes to go upon the farm. Without it, with each ensuing year, the boy must be more and more fearfully handicapped in the race of life.

Give this matter your serious consideration, and if you do, you are sure to give the boy who is to go on the farm, a training which will aid him in his life's work.

The four years course as advertised in this issue is to be preferred. If this is an impossibility, then give him two years in the short course, and if this is still impossible, then the ten weeks winter course is much better than nothing. If we can be of any service in advising you, or still further explaining our advertisement, you have but to command our services.

R. W. SILVESTER, President.

DEPARTMENT OF AGRICULTURE.

W. T. L. TALIAFERRO, A. B., PROFESSOR.

This department offers to students four courses, as follows:—

a. A four years course.
b. A two years course.
c. A ten weeks winter course.
d. A special eight weeks dairy course.

Scoring Corn.

These courses are based upon the fundamental idea that agriculture is an applied science, or rather a combination of applied sciences, and that the successful agriculturist should understand both the science and the knowledge of how to apply it. With this object in view the student is first made to study facts, as such. Then his observation is directed to the causes back of these facts, and the relation which these facts bear to each other and the general topic. To illustrate,—the first work of the freshman class is the study of the breeds of cattle. To begin with, the class is taken to the barn, and shown the milk and butter records of the cows. One cow with a good record and one with a poor record are taken out, and the class is invited to compare them; recording on cards the points of similarity and difference they may observe. Then, under the direction of the instructor, they go over the cows carefully, point by point, with rule, tape and score card, and the points before overlooked are brought to their attention. This is repeated with other cows, and from day to day, till the dairy type is recognized. The same is done with the beef type.

Scoring Horses.

Then the class has explained to them the courses underlying the connection between conformation and product, and are in a position to

readily appreciate the principles of stock breeding and feeding.

A Corner in the Alfalfa Field.

In the same way, if the subject of soils is to be taken up, the students are first taken to a part of the farm which has been set aside for early truck, sweet potatoes, etc., and are required to examine and handle the soil, and to take samples of the surface and subsoil to a depth of several feet. They are then taken to a field which makes the best crops of wheat and grass, and the same process is gone through with. At each place the character of the wild growth is noted. The samples of soil are compared and made the subject of critical laboratory study. This is continued with other fields and crops until the students become familiar with the types of soils and their adaptation to different crops.

Experience has demonstrated that by such methods the attention of the student can best be gained and his interest retained. In the shorter courses, there is, naturally, less time for the study of general topics and such as are not directly connected with agriculture.

In detail, the strictly agricultural work of the several courses is as follows:—

Four Years Course.—Freshman year. Breeds of farm animals and stock judging, general principles of soils and cultivation.

Sophomore Year.—Farm soils, crops and their cultivation.

Special attention is given in this class to the improvement of corn and other farm crops by breeding and selection.

Junior Year.—The principles of farm machinery, drainage and the subject of stock breeding.

Senior Year.—Manures and fertilizers, stock-feeding, dairying, farm management and specialties.

Two Years Course.—The first year's work is the agricultural work of the freshman and sophomore classes. The second year's work is the agricultural work of the junior and senior classes.

Note.—Stock-feeding is taught by Dr. S. S. Buckley, D. V. S., and the dairying by Prof. C. F. Doane, M. A.

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year. Special attention is paid in this course to the study of the types of farm live stock and the selection of animals for special purposes, to the best methods of cultivation as applied to different soils and crops, the uses of green manures and the principles of plant feeding and plant breeding.

One factor of immense value in giving a practical turn to the agricultural work of the College, is the close association between the College and the Agricultural Experiment Station, which gives the students the benefit of the work done in the barns and fields of the latter institution.

Department of Botany and Vegetable Pathology.

J. B. S. NORTON, M. S., PROFESSOR.
FREDERICK H. BLODGETT, M. S., ASSISTANT.

At every turn one comes in contact with plant life more than with anything else, and questions constantly arise concerning the vegetation about us. This is especially true with those engaged in agricultural pursuits; for the growing of useful plants and the utilization of vegetable products or the subjection of detrimental plant parasites and weeds demand the principal effort of the farmer or gardener. Botany is studied as a basis for agriculture and horticulture, many of the principles and methods of which depend upon this science.

The botanical laboratory and lecture room with herbarium, collections and office is located on the first floor of Morrill Hall. Besides the instruction in the college courses, this department is headquarters for the work in vegetable pathology and botany in the State Experiment Station, and the State Horticultural Department, which has charge of the inspection and suppression of plant diseases in the State of Maryland.

The department is equipped with suitable models, charts, maps, text-books, manuals and floras for illustration, together with specimens of economic plants, fungi, weeds, grasses, woods, etc., and an herbarium of native plants of Maryland which contemplates a complete representation of the Maryland flora. The department is furnished with compound and dissection microscopes, microtomes and appliances for histological work, together with materials and apparatus for experimental demonstrations in plant pathology. Although lectures, text-books, reference works, illustrations and models are used, the student is expected to gain his knowledge largely from his own work with the plants in laboratory and field. About half of the time is spent in field work studying the plants in their natural situations.

The courses in botany begin with elementary studies in the third

term of the Freshman year. The different forms and the structure and functions of roots, stems, leaves, etc., is taken up, introduced by a study of seeds and seedlings. In the field work, the common local plants are studied, and each student makes a collection of plants to illustrate some question in which he is especially interested. The bearing of all the subjects pursued upon agriculture is especially emphasized. This course is taken by all students in the agricultural and general science courses, and by the first-year students of the two-years course in agriculture. The agricultural and general science students continue this course in the first term of the next year and, in their field work, give special attention to the association of the plants and their relation to environment, the character of plants found in different soils, methods of pollination, relation to moisture, light, etc.

In the first term of the junior year, a comparative study of the structure and life histories of the principal types of plants from the lowest to the highest is made, giving attention mostly to those of economic importance, such as parasitic fungi, mushrooms, poisonous plants, grasses, grains, timber, fruits, vegetables, etc. This is taken by the agricultural and biological students, and in the two-year agricultural course.

Those who elect work in this department in the senior year receive instruction in the physiology and pathology of plants, considering the ways in which plants live and grow, store up and use energy, reproduce themselves; how they become diseased by improper environment and by parasitism; and how diseases can be recognized and controlled. Each student in this year prepares a thesis on some subject in which he has made original investigations during the year.

Students, who have completed the under-graduate courses or equivalent work may arrange for post-graduate studies in botany or plant pathology, and any student who wishes to specialize further in those lines can usually find opportunity to gain practical experience by assisting in the work of the department. Special attention is given to those who wish practice in the treatment of plant diseases.

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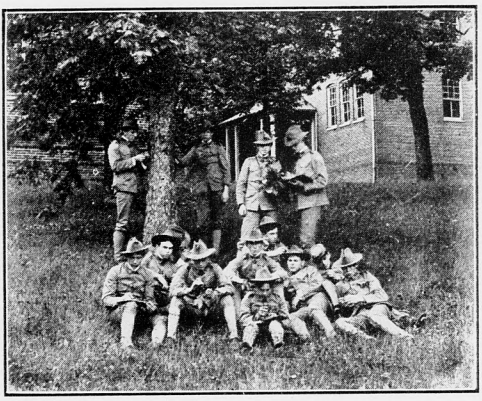

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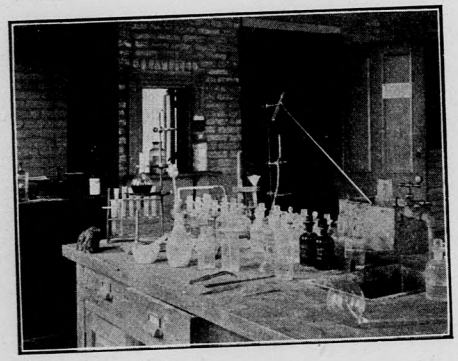
Department of Chemistry.

DR. H. B. McDONNELL, PROFESSOR,—STATE CHEMIST.
A. B. FOSTER, B. S., ASSISTANT, COLLEGE WORK.

This department is charged with two distinct classes of work: (1,) the State fertilizer and food control, and (2,) the instruction of students. The State work necessitates the publication of the "Quarterly," which is usually made up of the results of analysis of fertilizers and feeding stuffs, and is sent free of charge to all Maryland farmers who apply. Students do no part of this work, the assistants invariably being college graduates.

COURSES IN CHEMISTRY.

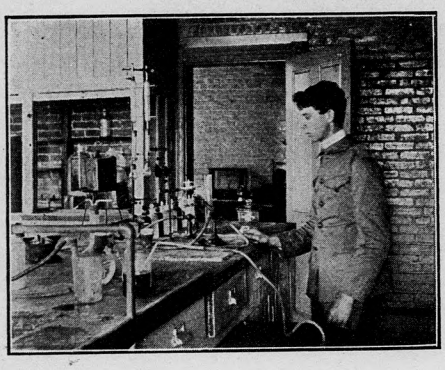


Student's Desk.—Sophomore Class.

Instruction in chemistry is begun with the Sophomore year, four hours per week being devoted to lectures and recitations, and three to four hours to practical work in the laboratory by the student, under the supervision of the instructor. In this way he comes in direct contact with the substances studied, having at hand ample facilities for learning their properties. Special attention is given to the elements and compounds of practical and economic importance, such as the air, water and soil; the elements entering into the composition of plants and animals; the useful metals, etc. The course in the Sophomore year is intended to give the student that practical and theoretical knowledge of elementary chemistry which is essential in the education of every man, no difference what his vocation. It also serves as a foundation for advanced work in chemistry, if such a course is chosen.

Chemistry becomes an elective study in the Junior year, when an advanced course in general chemistry is given, together with qualitative analysis, quantitative analysis, mineralogy and chemical technology. Four hours per week are devoted to the lecture room, and from twelve to fifteen hours to laboratory work.

During the senior year the work consists of organic chemistry and agricultural chemical analysis, including analysis of fertilizers, feeding stuffs, water, etc., and a short course in assaying. The work of the



Student's Desk—Senior Class.

last term consists, mainly, in the preparation of a thesis involving original work.

The object of the full chemistry course is to prepare the graduate for positions in agricultural colleges, experiment stations, or the United States Department of Agriculture. The demand for our graduates for such positions is far in excess of the supply.

BUILDING.

The chemical laboratory building is devoted entirely to chemistry. It is new and, not including basement, is two stories high. On the first floor are the laboratories for the State fertilizer and food control work, office, lecture room and balance room. On the second floor are three laboratories for the use of students—one for each class—a students' balance room, with first-class chemical and assay balances, and a supply room. The assay furnaces are in the basement. Each student is provided with a working desk, lockers, reagents and apparatus. Additional apparatus and material are provided from the supply room as needed.

EXPENSE.

Each student in chemistry is charged $6 per year to partly cover the expense of the material used. This does not include breakage of apparatus, which is charged extra. This charge seldom exceeds one or two dollars in the Sophomore year, or two or three dollars in the Junior or Senior year, depending upon the habits of the student.

LIBRARY.

The department is provided with a small but well-selected library of standard reference books on chemistry, to which additions are made from time to time.

POST-GRADUATE WORK.

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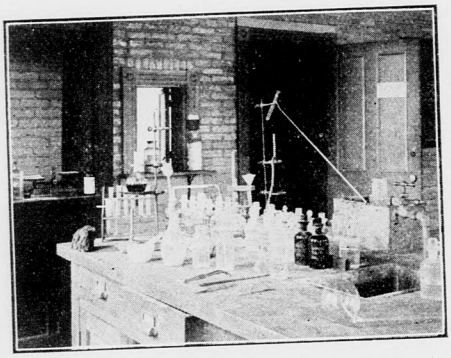

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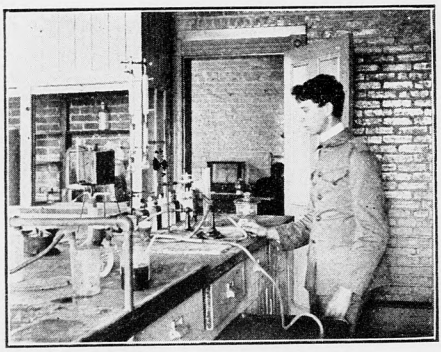

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Department of Entomology.

T. B. SYMONS, B. S., ACTING ENTOMOLOGIST.
R. I. SMITH, B. S., ASSISTANT.

Insect injury to agricultural products amounts each year to millions of dollars, and, as a whole, shows a tendency to increase rather than diminish; but a little reflection will show that these scourges are entirely due to natural causes. In fact, such injuries are very largely due to man himself, who, in trying to subdue nature, in the clearing and cultivation of the land, has deprived the insects of their natural food. Thus they must needs feed upon that which is substituted by him, and as it is less abundant than the former wild vegetation, the number of insects and the injuries they inflict are more apparent. American farmers have learned from sad experience of the severe losses occasioned by insects, but few realize their magnitude when considered as a whole. Progressive farmers have long been aware of these losses and the science of economic entomology has grown up in response to the demands for information concerning insect depredation, and for means of protection against them.

The course offered in this department aims to give the student a basis for an intelligent appreciation of the important relations of the science to agriculture and horticulture. A brief view of structural types precedes an outline of insect classification, and a special study of the economic bearing of the subject. Illustrative material is furnished from individual collections of the students and from the College collection. Charts, dissections and drawings from nature are used to illustrate points of value in classification. The preparation and application of the various insecticides, general farm management with respect to insect pests, machinery for applying insecticides, and the life histories of harmful species, are among the topics considered. Students wishing to make entomology a specialty have an opportunity to make it their major subject in the senior year.

Department of Horticulture.

JAMES S. ROBINSON, PROFESSOR EMERITUS.
C. F. AUSTIN, ASSOCIATE PROFESSOR.

The science of horticulture naturally divides itself into the following branches: fruit culture, vegetable growing, floriculture, and landscape gardening. To meet better the needs of horticultural advancement the following courses are open to all students of the college.

During the spring term of the Sophomore year seven hours per week are devoted to the elements of horticulture. The scope and objects of horticultural training, the opportunities and possibilities that are open to this line of work, are discussed. A great deal of practical work is done this term in pruning, grafting, spraying, construction and management of hot beds and cold frames, seed testing and sowing. A discussion of the soils, manures, fertilizers and composts for the different plants and trees.

The fall term of the Junior year is given to a discussion of the small fruits, including strawberries, raspberries, blackberries, currants, gooseberries, etc. The term work includes a thorough discussion of the history and origin of the different fruits; the soil and cultural methods, including how to plant, prune, and cultivate; and the picking, packing and marketing of the fruit.

The winter term is devoted to the study of floriculture and landscape gardening, in which green house construction and management, heating and ventilating, are discussed, together with the preparation of the soils, and the temperatures required for different plants and seeds; the growing of roses, carnations and other commercial green house flowers. The laying out and caring for town and country homes, with

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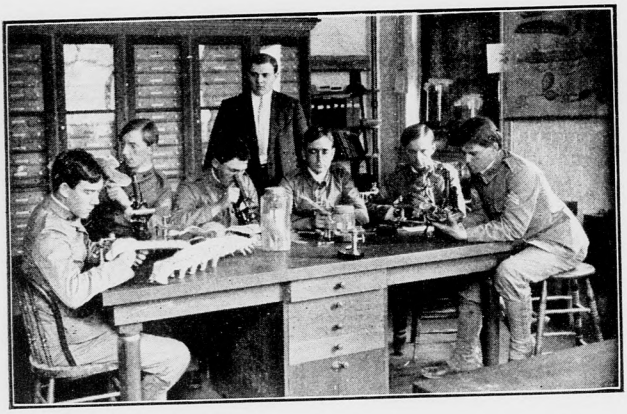
R. I. SMITH, B. S., ASSISTANT.

Insect injury to agricultural products amounts each year to millions of dollars, and, as a whole, shows a tendency to increase rather than diminish; but a little reflection will show that these scourges are entirely due to natural causes. In fact, such injuries are very largely due to man himself, who, in trying to subdue nature, in the clearing and cultivation of the land, has deprived the insects of their natural food. Thus they must needs feed upon that which is substituted by him, and as it is less abundant than the former wild vegetation, the number of insects and the injuries they inflict are more apparent. American farmers have learned from sad experience of the severe losses occasioned by insects, but few realize their magnitude when considered as a whole. Progressive farmers have long been aware of these losses and the science of economic entomology has grown up in response to the demands for information concerning insect depredation, and for means of protection against them.

The course offered in this department aims to give the student a basis for an intelligent appreciation of the important relations of the science to agriculture and horticulture. A brief view of structural types precedes an outline of insect classification, and a special study of the economic bearing of the subject. Illustrative material is furnished from individual collections of the students and from the College collection. Charts, dissections and drawings from nature are used to illustrate points of value in classification. The preparation and application of the various insecticides, general farm management with respect to insect pests, machinery for applying insecticides, and the life histories of harmful species, are among the topics considered. Students wishing to make entomology a specialty have an opportunity to make it their major subject in the senior year.



Department of Horticulture.

JAMES S. ROBINSON, PROFESSOR EMERITUS.
C. F. AUSTIN, ASSOCIATE PROFESSOR.

The science of horticulture naturally divides itself into the following branches: fruit culture, vegetable growing, floriculture, and landscape gardening. To meet better the needs of horticultural advancement the following courses are open to all students of the college.

During the spring term of the Sophomore year seven hours per week are devoted to the elements of horticulture. The scope and objects of horticultural training, the opportunities and possibilities that are open to this line of work, are discussed. A great deal of practical work is done this term in pruning, grafting, spraying, construction and management of hot beds and cold frames, seed testing and sowing. A discussion of the soils, manures, fertilizers and composts for the different plants and trees.

The fall term of the Junior year is given to a discussion of the small fruits, including strawberries, raspberries, blackberries, currants, gooseberries, etc. The term work includes a thorough discussion of the history and origin of the different fruits; the soil and cultural methods, including how to plant, prune, and cultivate; and the picking, packing and marketing of the fruit.

The winter term is devoted to the study of floriculture and landscape gardening, in which green house construction and management, heating and ventilating, are discussed, together with the preparation of the soils, and the temperatures required for different plants and seeds; the growing of roses, carnations and other commercial green house flowers. The laying out and caring for town and country homes, with

special attention to rural ornamentation; a study of the trees, shrubs, vines and plants that are adapted for home decorations.

The spring term is devoted to trucking or vegetable gardening. How to handle truck crops, as to the selection and preparation of soil, fertilizer and compost to be used with the different crops. The cultivation, handling and marketing of the product is given careful attention.

The work of the Senior year is elective. This department offers the following work for the year. During the fall term pomology or fruit growing is given careful attention. Under this topic a study is made of the principles underlying successful fruit culture. A discussion is made of the reasons why, as well as how, to plant, prune and cultivate the apple, pear, peach and plum; the question of picking, packing and storage houses; the varieties of the different fruits adapted to Maryland, and the soil conditions required for each class of fruits.

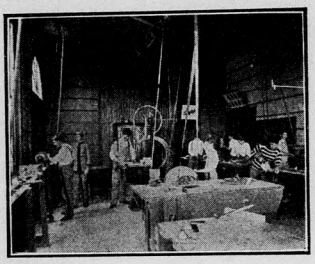
The winter term is given to a study of the principles of forestry; how to plant and care for our forests; the improvement and preservation of forests, and the need of practical work along this line in Maryland.

During the spring term a thorough discussion is given of plant breeding; the history and origin of the different varieties of cultivated plants; and how to improve and to originate new varieties of fruits. A discussion is given of the variation, crossing and hybridization in plants.

Special opportunity is given to seniors for research work in any branch of the subjects they may choose. Our buildings, green houses, orchards and gardens are here for the benefit of the student and every opportunity will be given to encourage and aid anyone interested in this line of work.

Department of Mechanical Engineering.

J. HANSON MITCHELL, M. E., PROFESSOR.
J. C. BLANDFORD, M. E., ASSISTANT.

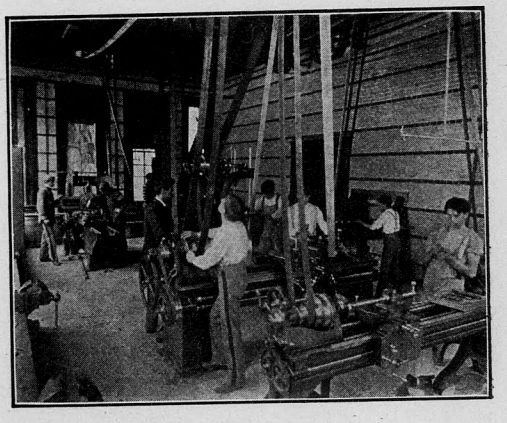


This department offers a course for those who wish to design and construct machinery and superintend engineering plants. With this in view it presents a course in theory and practice leading up to the above requirements, embracing mechanics, drawing, mathematics, physics, the modern languages and shop practice. The latter consists of practical training in the uses of tools and machinery, the care and construction of the same. The time devoted to each subject will be found in the general college catalogue.

The aim of the department is to give the student a good practical education, so that, on completing his course, he can take a position in a machine shop, draughting room, or any branch of this work that he might select. The success of this aim is borne out by the fact that all students graduated from this department are now doing work of this character.

The mechanical engineering department began in 1895, with one student, and in 1898, that course was completed by the graduation of this student. In 1903 there are seventy-two students of mechanical engineering, and a hundred and twenty-five students receiving instruction in this department.

In the Freshman year the students begin elementary drawing and the use and care of wood-working tools with numerous exercises in sawing, chiseling, planing and joining. After he has thoroughly mastered this work, he takes up wood-turning, and later in the year pattern-making. These patterns are made for machines that are to be cast and finished in the other shops. This work, with drawing, constitutes



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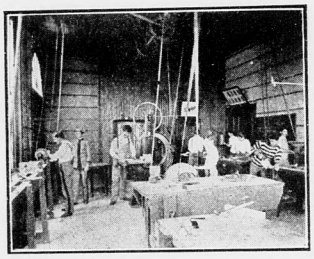

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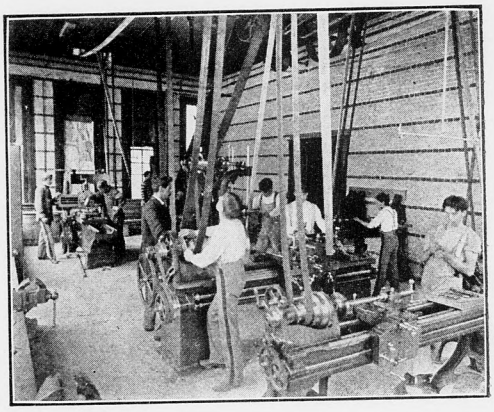


the practical work of the Freshman year. Lectures on tools and shop methods are given to this class.

In the Sophomore year forging and foundry work is taken up. Exercises in the working of iron and steel, drawing out, upsetting, welding, tempering, hardening and annealing, constitute the work of the year. Each student is required to make a set of lathe tools, cold chisels and punches, which he uses in his work in the machine shop, in his junior and senior classes.

The foundry work consists of molding, casting, core-making, and care and firing of cupola. Castings are made of brass and iron. This work is supplemented by drawing, applied mechanics, mathematics, etc.

In the junior and senior years, the practical work of the students consists of machine-shop practice, by which he is taught to use the lathe, drill press and plane.

In the senior year, as a rule, the students are employed in finishing some machine, such as the steam or gasoline engine, or lathe.

The students have constructed a twenty-five horse-power automatic steam engine, a smaller steam engine, a one horse-power gasoline engine, and are now working on several lathes for the pattern shop; the patterns and castings of the latter having been made by the students.

Tests of steam engines and lathe trials are required parts of the work. In addition to this the student is taught by lectures and recitations the subjects allied to mechanical engineering, such as machine design, graphic statics, strength of materials, and mathematics.

The total number of hours in practical work in the shops is about 1,000, making, if eight hours is considered a day's work, something over four months in which the student is engaged in actual practical work in this department.

Department of Physics and Civil Engineering.

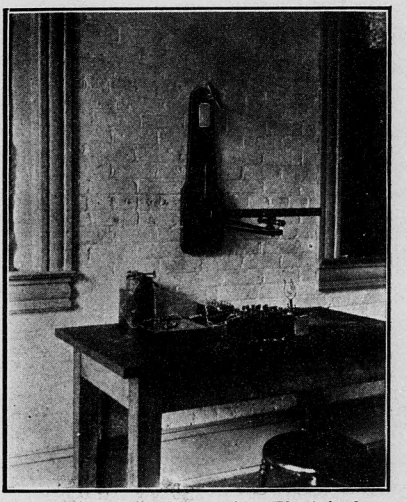
HENRY LANAHAN, A. B., PROFESSOR.

PHYSICS.

The beginning course in physics is given in the Sophomore year, and consists of the elementary treatment of the mechanics of solids, liquids and gases. This course is required of all students. In the junior year the mechanical and scientific students continue the study of physics, taking up first a review of mechanics, and following this with a study of heat, sound, electricity and magnetism, and light. The instruction is given partly by text-books, and partly by lectures, and is

copiously illustrated by experimental demonstrations before the class. The effort is made to teach clearly the principles of the object, and at the same time to show the student how these principles are applied in familiar machines and operations of every-day life; how they are utilized in the instruments necessary for the study of the other sciences, and how they explain many of the phenomena we see around us in nature.

In the laboratory the work consists mainly of the study of various measuring instruments,—their uses, the methods of correcting their inaccuracies, and their application to the verification of physical laws, and the determination of physical constants. The student is required to record his data and work out his results in a systematic manner. Particular attention is given to the value of approximate methods which enable one to check his calculations. The slide-rule is found to be a valuable adjunct to this part of the work. Additional apparatus is purchased by the department each year, and as our equipment becomes more extensive we shall be able to arrange the work so that the student may devote special attention to that part of the subject that is most useful to him. Plans are being made by which we hope to install some electrical machinery, which will enable us to extend greatly our present work in electrical measurements. It is believed that the training thus afforded is of great benefit to the student, no matter what his subsequent calling may be, and it is undoubtedly true that such a course is of inestimable value to the young man who is to follow a scientific or an engineering career.



Apparatus for Measuring Electrical Resistance.

CIVIL ENGINEERING.

The instruction in civil engineering is begun in the junior year with a course in surveying. This course includes the use and adjustment of engineering instruments; the methods of land surveying; the plotting and computing of areas; the dividing of

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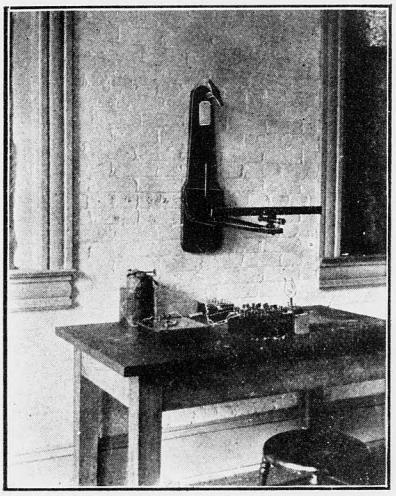

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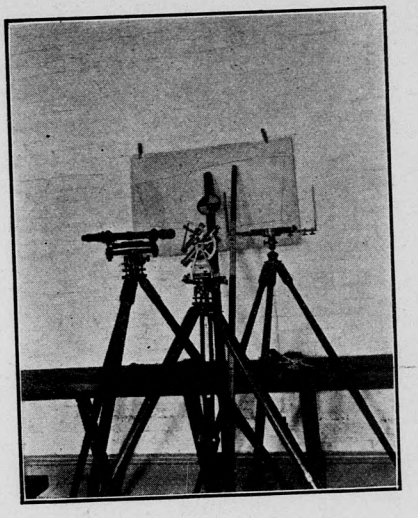

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In the senior year a course is given in the methods of determining the stresses that exist in framed structures, such as roof trusses, bridge trusses, and various forms of cranes. Following this is a course in strength of materials which treats of the manner in which the various members of the structure are affected by the stresses, and shows how to design these members in the most economical way to serve the required purpose with safety. Instruction in drawing and practical work in designing is given in the mechanical department to the civil engineering students.

In the senior year there is a course offered in railroad and highway location and construction. We have already found that there is a demand for men trained in highway engineering, and the increasing interest that is being manifested in our state in the movement for better roads, indicates that in the near future there will be a still greater demand for young men in this line of work.

Department of Veterinary Science.

S. S. BUCKLEY, D. V. S., PROFESSOR.

The various branches of agriculture are interdependent and the live stock industry assumes an important place in determining the success or failure of the year's work.

We are indebted to the labor of our animals for the production of crops, and we must depend upon them to create markets for such crops. The loss of an animal through death may offset the value of the products of several acres of land. The disability of an animal

through lameness or sickness may result in a late crop or in a short crop. A disease, further, may be infectious, and spread to other animals, or to members of the household.

To overcome successfully, or to modify the conditions responsible for such disability of our animals is the object of the veterinary course pursued at this college.

To secure the best results of feeding, to recognize health and to maintain it, to detect the first sign of disease and prevent its spread, if infectious,—and, finally, to exercise intelligence in the general care and management of all domesticated animals, are matters towards which instruction is especially directed.

The course of study embraces theoretical work, and practical exercises and demonstrations, whenever material can be had. A study of microscopy unfolds to the student the intricate workings of nature more forcibly probably than he has ever before conceived of, and prepares him for all work involving care, precision and dexterity, so essential to success in all scientific work.

Bacteriology is studied as a foundation for future work in plant and animal diseases, and its bearing upon dairying and general agriculture. In both of the preceding courses the work is almost entirely practical. The student next receives instruction in the normal form and physiological actions of animal bodies. The study of animal foods and the processes of nutrition receive especial consideration at this time.

Following this abnormal form and action, constituting disease is studied. This course, representing as it does the true veterinary work, deals with the examination of animals for soundness; the study of conformation; the correction of faulty condition through feeding; in short, the general treatment of animals whereby the greatest returns through production of energy and animal products are secured.

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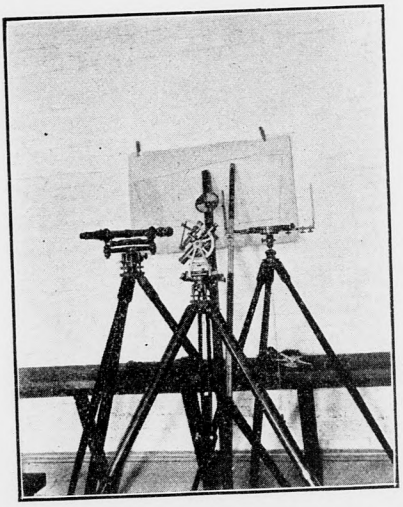

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Minor surgical operations, bandaging and dressing of wounds, methods of securing animals, and the administration of medicines, are taught practically.

The live stock on the farm and local cases brought here for examination afford a variety of clinical material for the students.

RESUMÉ.

The foregoing pages outline the plan of work of our different departments. The cuts illustrate the students actively engaged in applying the principles acquired in the class room. Both brain and hand are being developed at the same time. The equipment is also shown. A careful perusal of this bulletin will convince you that in your agricultural college you have such facilities for instruction as will enable your son to receive such mental and hand culture as will qualify him, on graduation, to take his position in the vanguard of the output of our agricultural colleges at each commencement season.

You will find on cover pages illustrations of the new administration hall and dormitories. When completed, accommodations for 150 additional students will be supplied. The active interest in the development of college and station, taken by the farmers' organizations, as well as by individual men, is in a great measure responsible for the rapid development of these twin agencies for agricultural development in Maryland. The work has but commenced. Press it upward and onward to those high ideals which the public-spirited, pioneer agriculturists of Maryland conceived in 1857, and brought forth through the use of their private means by establishing the first distinctly organized college of agriculture on American soil.

Any information you may desire regarding the college, not contained in these pages, may be obtained by addressing

R. W. SILVESTER, President,
P. O., College Park, Maryland.

Telephone, No. 43 Hyattsville.
Telegraph, Hyattsville.
Freight and Express Office, College Station, Md.

The Maryland Agricultural College,

COLLEGE PARK, MD.

Maryland's School of Technology.

FOUR COURSES OF INSTRUCTION:

Agricultural, Mechanical, Scientific, Classical.

Each department supplied with the most modern and approved apparatus. Practical work emphasized in all departments. Graduates qualified to enter upon their lives' work at once.

Practical Laboratories for the Departments of Chemistry, Entomology, Vegetable Pathology, Agriculture, Horticulture, Bacteriology, Physics and Engineering.

This is the day for knowing HOW TO DO some one thing well. The boy so equipped is ready for the battle of life.

DAILY SANITARY INSPECTION BY PHYSICIAN TO COLLEGE.

Boarding department supplied with all modern improvements. New bath-rooms and closets in an annex to the main building. Steam, heat and gas, books, room, heat, light, washing, board, medical attention.

$154.00 FOR THE SCHOLASTIC YEAR.

$5.00 caution money on entrance. $6.00 for material for each laboratory. Payments made quarterly. Catalogue, giving full particulars, sent on application.

SHORT WINTER COURSE IN AGRICULTURE.

A ten weeks' course designed for those who are unable to take one of the longer courses and including the largest amount of purely practical information about farming in all its phases. This course is invaluable to the young man desiring that information on agricultural topics so necessary to meet the sharp competition of the present day. We are anxious to have the young men of Maryland, who intend to remain on the farm, embrace this opportunity. Many cannot afford a four years' course. This solves the problem for them.

SYNOPSIS OF THE COURSE.

FARM CROPS AND CULTIVATION OF THE SOIL; DRAINAGE; BREEDS OF STOCK AND PRINCIPLES OF BREEDING; STOCK FEEDING; MANURES; TOBACCO; DAIRY HUSBANDRY AND DAIRY CHEMISTRY; HORTICULTURE; AGRICULTURAL CHEMISTRY; PLANT PHYSIOLOGY; SANITARY SCIENCE; ECONOMIC ENTOMOLOGY; FARM ACCOUNTS; FARM BUILDINGS AND BRIDGE CONSTRUCTION; CARPENTRY AND BLACKSMITHING; VETERINARY SCIENCE; CITIZENSHIP.

NO EXPENSE FOR TUITION, USE OF LABORATORIES OR SUPPLIES.

Good board at moderate rates can be secured in the neighboring villages of Berwyn, Lakeland, Riverdale and Hyattsville. All within short distance of College and Experiment Station.

Board, room, books, heat, light and laundry furnished for a limited number at College for $4.00 per week.

Electric cars make frequent connections; only a pleasant walk in good weather.

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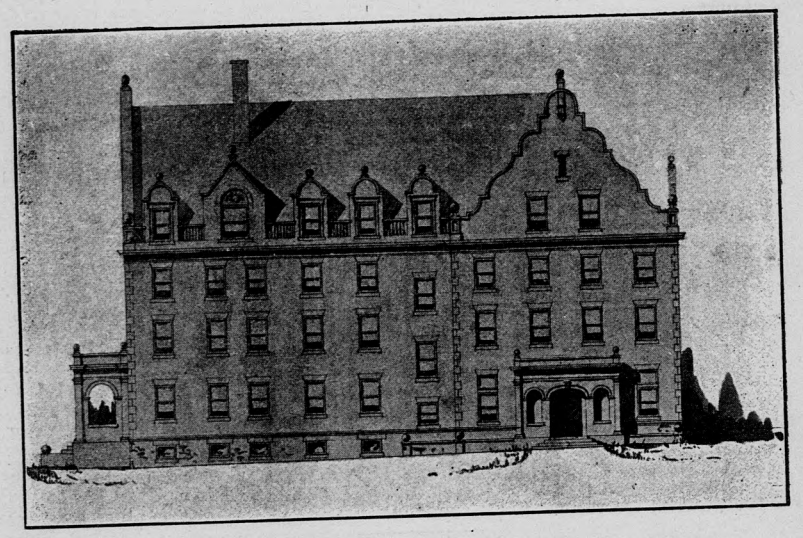
P. O., COLLEGE PARK, MD.



NORTH ELEVATION OF ADMINISTRATION HALL AND DORMITORIES.